VIRGINIA WILDLIFE

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V.S.C.C. photo

Spring comes to Virginia's historic capitol in Richmond. The building was designed by Thomas Jefferson, and overlooks the lower part of the city and the James River. It is the oldest, continuously occupied, state capitol in the United States.

Virginia WILDLIFE

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A Monthly Magazine Dedicated to the Conservation, Restoration, and Wise Use of Virginia's Wildlife and Related Natural Resources, and to the Betterment of Hunting and Fishing in Virginia.

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Cover

Three baby cottontails, just out of the nest, begin to think of a change in diet.

Photo by Edwin W. Teale

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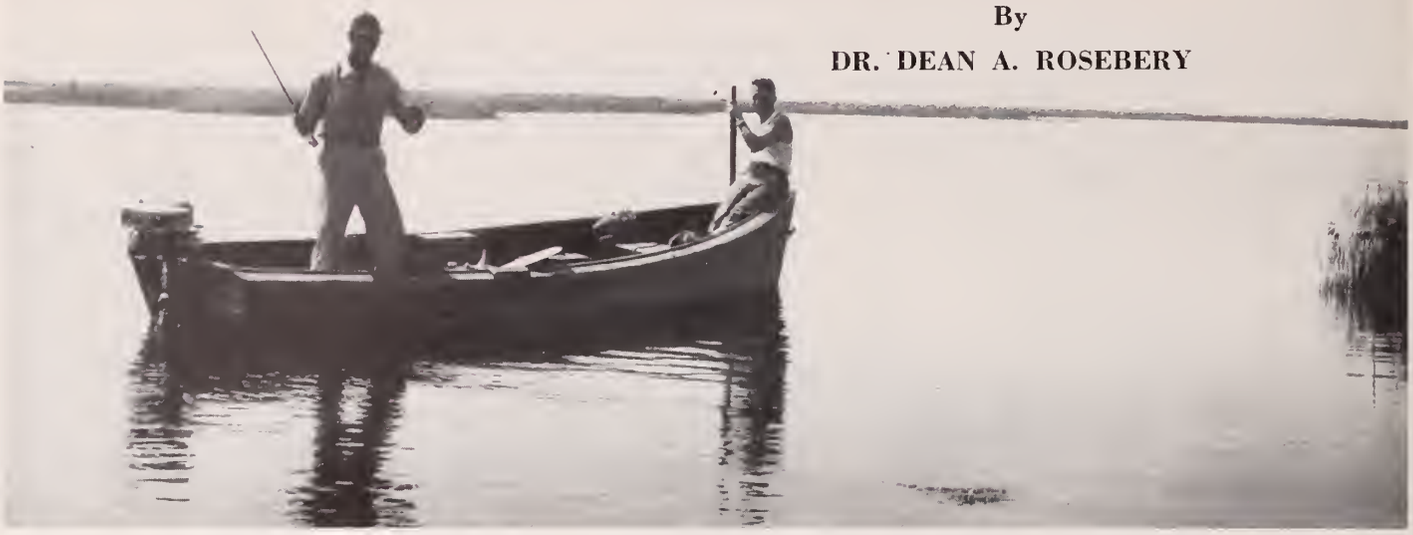
Back Bay Fish and Fishing

By
DR. DEAN A. ROSEBERY



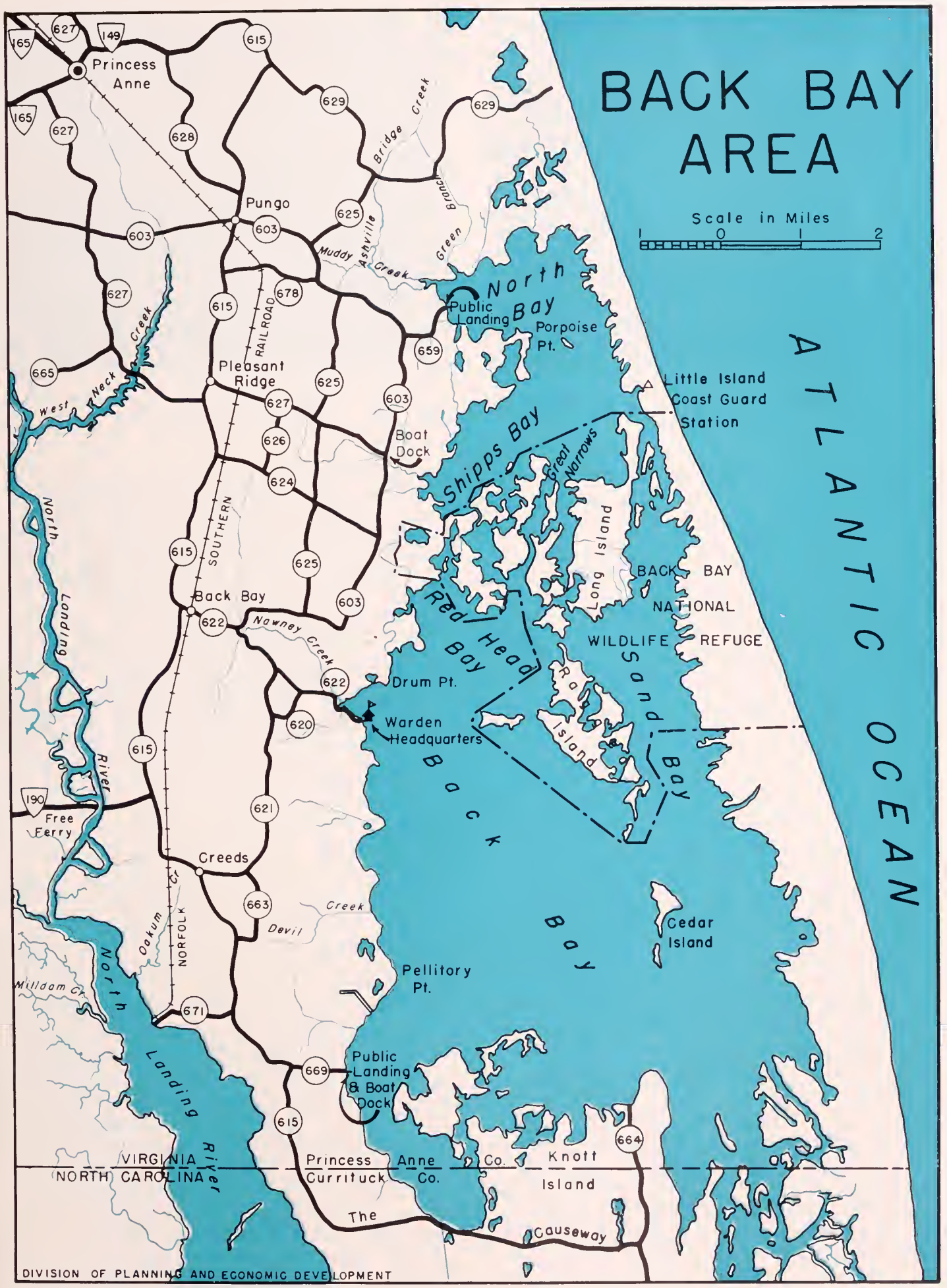
Back Bay fishing is unique in Virginia. The area is considerably under fished.

(Photos by L. G. Kesteloo and James E. Mays)

EVER GO fishing and not see another soul? Sounds ideal doesn't it. Virginia has several spots like that and Back Bay is one of them. Last year 4,087 fishermen angled on the 25,000 acres of water in the Bay. This is the equivalent of one day's fishing on each six acres of water during the 1951 season. This information was obtained during the recent study of Back Bay fish and fishing sponsored as a Dingell-Johnson Project by the Commission of Game and Inland Fisheries. The program received the complete cooperation of interested individuals and organizations in the area. The anglers, fishing guides and commercial fishermen cooperated by supplying equipment and information; the Tidewater Anglers Club and the Izaak Walton League of Norfolk supplied prizes for the return of fish tags as well as publicizing the fish study program. The project was designed to study conditions and distribution of the fish in the Bay and the affects of both angling and commercial operations on the fish population.

The Back Bay area encompasses smaller bays such as Back Bay proper, Sand Bay, Red Head Bay, Shipps Bay and North Bay. Within the area are extensive marshes with their many ramifications of ponds, canals and ditches (see map). Back Bay is indeed a unique and fascinating body of water, being separated from the Atlantic Ocean by only a narrow strip of beach varying in width from one-fourth mile to one mile. There is no direct connection with the ocean until it reaches Oregon Inlet, some 70 miles to the south. The salinity varies from fresh water in North Bay to 4 per cent sea water at the south end of the Bay. The larger bays have long exposed stretches which make the water quite vulnerable to the winds and in turn requires that the fishermen know seamanship. Not only do the winds affect the anglers by whipping up angry waves, a consistently strong southerly wind may blow the water from Currituck Sound and pile it up over the marshes of Back Bay, but conversely a strong northerly wind may lower the water level in the Bay to the extent that navigation with outboard motors is impossible in many areas. The shore lines are, for the most part, quite shallow with the marsh edges undercut by wave action plus the assistance of muskrats. The shore line shown in the accompanying map is quite characteristic of the favorite fishing grounds—bass love to lurk in those pot holes and under the marsh in the hot summer time.

The majority of the fishermen are after the largemouth bass; however, when the going gets rough they just settle down by the side of a duck blind with a bucket of small "minners" and pull in a half bushel of bluenose (white) perch. The minor species of fish, as far as the number caught by anglers is concerned, are the channel cats, striped bass, yellow perch, robins, black crappie and bluegills. Since the ol' bass is the most important sport fish, information was collected in more detail on this species than any of the others. The 4,000 fishermen took out about 8,000 bass which were estimated to weigh 11,000 pounds. Back Bay bass do not run in the "lunker" size; in fact, less than 1 per cent


BACK BAY AREA
Scale in Miles
1 0 1 2
ATLANTIC OCEAN
Princess Anne
Pungo
Pleasant Ridge
Back Bay
Creeds
Bridge Creek
Branch
Green
Ashville
Muddy Creek
North Bay
Public Landing
Porpoise Pt.
Little Island Coast Guard Station
Shipps Bay
Great Narrows
Long Island
Boat Dock
BACK BAY NATIONAL WILDLIFE REFUGE
Red Head Bay
Sand Bay
Rabbit Island
Nawney Creek
Drum Pt.
Warden Headquarters
Back Bay
Cedar Island
Pellitory Pt.
Devil Creek
Public Landing & Boat Dock
Knott Island
The Causeway
VIRGINIA
NORTH CAROLINA
Princess Anne Co.
Currituck Co.
Free Ferry
North Landing River
West Neck Creek
Oakum Cr.
Millcam Cr.
SOUTHERN RAILROAD
NORFOLK
DIVISION OF PLANNING AND ECONOMIC DEVELOPMENT

Shore seining operations by fisheries biologists revealed much-needed scientific data on Back Bay bass, and bass fishing.

Commercial fishing for non-game fish is an age-old occupation at Back Bay. About 10 crews work the Bay consistently.

of the fish were 20 inches and over. The majority belonged to the 12-16 inch group. Just for the record a 16 inch bass will weigh about 2 pounds and a 22 inch bass will average 6 pounds.

How good a fisherman are you and what is considered good bass fishin'? During June the anglers averaged 1 bass every 2.5 hours but by September the catch had decreased to 1 bass every 5 hours. These returns are conservative for they represent the number of fish taken over the dock and not the number of fish actually caught. Some guides with their two fishermen consistently averaged 30 bass a day on the hook. Of the fishermen leaving the docks in June 86 per cent came back with fish; this percentage gradually decreased to 52 per cent in October. Artificial lures were favored over live bait during the months between June and August with live bait being preferred in October. You "artificial" boys make sure you have a good silver spoon plus some surface lures for May and June of the coming season. By mid-June and for the rest of the summer the popping bugs and lures will provide the maximum sport.

In order to determine what per cent of the bass were actually removed from the Bay by anglers, metal jaw tags were placed on 1,738 fish. Based on the number of tags returned it is assumed that less than 10 per cent of the bass were taken out by anglers. Not only did the tagging program supply information on the bass harvest but it also supplied data on the movement of the largemouth. Among those fish tagged in the northern part of the Bay none had moved more than one mile before recapture. Of the bass that had been tagged in the south part of the Bay 19 were recaptured north of where they were tagged and the majority of them moved over the line into the marshes of North Carolina. Two bass got a bit chilly and headed south, only to be caught 20 miles south in Currituck Sound. It appears that bass do move in and out of the Bay to and from Currituck Sound; however, not to the extent that their movements may be termed mass migrations.

Commercial fishing is an age old occupation for the Back Bay region. During the early '30's approximately 100 fishing crews were operating with their 250 yard 1½ inch haul seines. At the present time about 10 crews work the Bay consistently. During the last fishing season the commercial fishermen removed about 180,000 pounds of carp, 50,000 pounds of perch (white and yellow), 18,000 pounds of other fish (catfish, shad, bowfin). The value of the fish removed was in the neighborhood of $15,000. The total commercial catch on the Bay represents about 10 pounds of fish removed for each acre of water, a relatively low harvest. Commercial operations probably could be doubled without having any appreciable affect on the total fish population.

The question of sport fishing versus commercial fishing and the affect of the latter upon the bass and upon sport fishing in general is frequently brought before the public. There is no sound reason why the two methods should not co-exist on Back Bay for mutual interest and benefit. The commercial fishermen do injure a small percentage of the bass under 11 inches long which are gilled in the nets because of the size of the mesh; however, if one realizes that the fishermen seldom catch bass when they are fishing for carp the percentage of bass captured is small indeed where the overall picture is concerned. The commercial fishing

Deeper waters of the Bay were worked by haul seines, and great numbers of bass were captured for tagging purposes.

A small portion of the captured fish were kept for research. Scale samples were taken to make growth studies.

operations have a tendency to keep the rough fish populations in check. Several of the Southern States are initiating commercial fishing on inland waters to remove rough fish, which in turn improves sport fishing. The commercial fishing operations plus the high predator fish population are responsible for keeping the number of white perch in check, hence perch population is kept down to the point where they are able to grow large enough to be of interest to fisherman.

The Commission of Game and Inland Fisheries recently passed a regulation permitting year around bass fishing on Back Bay. This new regulation should permit the anglers to get in some April and May fishing this year. Because of the relatively low fishing pressure and low harvest there is no question about the Commission's doing the proper thing by opening the season.

The preceding map shows the three public landings where boats may be launched for fishing purposes and the two docks where boats may be rented. A fisherman who anticipates going to the far corners of Back Bay should consider hiring a guide; however, the cautious fisherman should have no trouble finding good fishing waters within one or two miles of a landing.

First Principles of Fly Casting

MANY angling authorities concede that fly casting is very simple in its principles and is much easier to learn than bait casting. Its motions, at least, are exceedingly simple and may be learned in a few minutes by anyone who will make a thorough study of the techniques involved.

A practical fly rod for the novice is 8½ or nine feet in length and weighs in the neighborhood of 5½ ounces. On the fly rod the reel is seated below the hand-grasp or cork grip, as differentiated from the bait casting rod where the reel is above the hand-grasp. Theoretically the reel should weigh about one and one-half times the weight of the rod. Proper balance of reel, rod and line is important in "harmonious" casting. Of great importance is the line, for it is the line and not the fly that is cast. In fly casting the reel does not turn, it remaining motionless except when the line is pulled from it with the left hand or retrieved. The fly or lure at the end of the line matters virtually nothing so far as the casting is concerned. The line must be heavy enough to develop the power in the rod. That is, bend the rod so that in resuming its normal straightness, the rod may exert pull on the line which helps to start it traveling into the air behind and above the caster on the back cast—and out again over the water in front of him on the forward cast.

You may practice on the lawn of your yard if a practice pool or water is not available, but this is not recommended as best for the line.

A size "D" level fly line, or even a size "C" will usually be found proper for a rod of the above general specifications. Roughly speaking, the whippier, lighter and more limber the rod, the lighter the line that may be used, and vice versa.

Wet or Dry—WHICH?

By WINSTON MONTAGUE

WHEN I was just a young lad I remember hearing my Uncle Charley Winston telling tales of fly fishing in a famous old pond in Tidewater Virginia. I remember I thought at the time this fly fishing was some mysterious art which could only be learned by those who had some special talents not common to ordinary fishermen. I was fishing then, as I have been ever since I can remember, but in those days I fished with a plug rod or with bait, depending on where I fished and what I hoped to catch. Little did it occur to me then that someday I would do much of my fishing with a fly rod.

Bobby Cruickshank, the great golf professional, is one of the best fly fishermen it has ever been my good fortune to meet. He came to Richmond in 1933 and we soon came to be great friends. Shortly after his arrival here we fished one rainy day in a Gloucester pond, Bobby with his fly rod and I with my plug casting outfit. On that day he showed me how to fish with a fly rod. That was the day I put away my casting rod and I have never taken it up since except a few times in Florida for big salt water fish and on an occasional trip for rockfish in Virginia waters. From that day to this it has been the fly rod for me, even in salt water whenever a fly rod is practical, which is often the case.

In my travels I have met many fly fishermen. Some, especially my friends, Joe Brooks and John Alden Knight, are known wherever fly rod men gather. Some are purists and others just like to catch fish without worrying too much about some of the finer points of the game. Purists or just fishermen, whenever devotees of the fly rod get talking shop they sooner or later come around to that old, old question of which is better, the wet fly or the dry.

Before I go further, let me hasten to say that I am not a purist. I just like to fish and if the wet fly is taking fish you will probably find me using one even though the expert fisherman may say the dry fly is the thing to use because fish should be taking dry fly under the existing conditions. I like dry fly fishing but I still cling to the old fashioned idea that the thing to catch fish with is the thing the fish

want and not what the fisherman thinks they should want.

Whether to fish with a wet fly or dry is an ever recurrent problem before the first cast is made. Yet sometimes it is not too hard a problem. I remember the day Charley Morris went with Charley Willis and me on his first trout fishing trip and caught the only trout taken by the three of us. Knowing nothing about trout fishing and having only two or three flies, I asked him how he happened to be so successful. "Well", said Charley, "I took those two or three flies you gave me and went up the stream. I fished awhile with a wet fly and caught nothing. Then I saw some yellow insect float down the stream and a trout took it. So I put on that yellow fly you gave me, floated it down the stream and the fish took it." And sometimes making the decision is just as simple as that.

It is not always that simple, however. If you see the fish rising to the surface and feeding on insects it is logical to fish with a dry fly. Then your major problem is only to select a fly which looks as much as possible like the insects on which the fish are feeding. If the fish are not feeding on the surface, however, you must call on your past experience or else you must simply experiment with both wet and dry flies until you find out which the fish will take. Once they take your offerings stick with that fly until they refuse to notice it.

The man who fishes for trout in our mountain streams is perhaps confronted with the wet fly-dry fly problem more than any other Virginia fisherman. I make no pretense of being an expert trout fisherman. I like to fish for trout but I do not consider myself sufficiently expert in that game to offer advice to anyone except the rankest amateur. The best advice I can give you about trout fishing is to go with an experienced angler. Watch what he does and govern your choice of flies by his.

In the mill-ponds of Tidewater Virginia you can often have a lot of sport fishing for bream with very light tackle. These little scrappers will take a dry fly quite readily—in fact, I believe they will take it quicker than they will any other lure. I know that small popping bugs are great favorites with those who go after bream with their fly rods but you will be amazed at how many bream you will catch if you will leave the popping bugs at home and use only dry flies. Using a light leader and moving the fly very slowly on the surface you will be in for a lot of action. And you will find you will catch a much larger percentage of your strikes for you seldom miss with a dry fly whereas with the little popper the bream often hits the body of the bug without getting hooked.

You will catch a lot of bass, too, in the mill-ponds on dry flies. Traditionally fly fishermen in Eastern Virginia use wet flies if they do not try popping bugs. The wet flies catch bass but so will the dry flies and they are a lot more fun for there is always more thrill when a fish hits a floating lure than when it is caught on an underwater bait. The secret here is to use flies large enough to attract the bass. Sometimes the small trout flies will do the trick but you have a much better chance of attracting a good fish with a larger fly. Many of the larger flies have large hooks and that makes the fly harder to float. It does not take such a large hook to catch a big bass so try to pick dry flies for bass with a large enough body to attract the fish and yet a small enough hook to let the fly float easily.

I believe the shad fishermen are missing a good bet in not doing more fishing with dry flies. When the shad fishing first opened up at the Chickahominy Dam there was an army officer who always seemed to catch more, and bigger, shad than most of the other fishermen. I did not see this gentleman fish as I was in the Navy then but I understand the largest shad this man ever took was on a small trout fly. It could be that with more experimenting on the part of the shad fishermen someone would find a dry fly which they would take consistently. Certainly it would add a lot to this fine sport if we found a dry fly which would take them with any degree of consistency.

Fishing for rockfish with fly rods in salt water is a sport unknown to many Virginia anglers yet this type of angling furnishes some of the finest fishing to be had in our state. I suppose I was one of the first fishermen to try this sport in Virginia when I was introduced to this type of angling by my good friend, Joe Brooks, one of the outstanding salt water fly rod men in America. Joe and I have since caught many a rockfish, or striper, if you prefer that name, in Virginia tidal waters. Each year this sport is growing in popularity with Virginia fishermen. Many of them now know that rock may be taken on streamer flies but few of them yet know that these same fish will hit a popping bug on the surface just as readily as will a bass or bream. On his last visit to Virginia, Joe fished with popping bugs exclusively and caught a great many rock. And he happens to hold the world's record for stripers on a fly rod. His great rockfish weighed better than twenty-nine pounds and was taken on a popping bug after a battle of a little more than 45 minutes.

Whether or not stripers, or rock as we call them in Virginia, will take a dry fly I do not know as I have not heard of anyone trying this method. I do know, however, that when you try for them with

(*Continued on page* 13)

Knowledge gained at

The Big Levels Managed Hunt

By J. W. ENGLE and P. J. HANLON

←
Big levels was proclaimed a Federal Game Refuge on July 6, 1935, by the late President Franklin D. Roosevelt.

Commission photo by Kesteloo

DURING THE 1951 deer season, a managed hunt was held west of the Blue Ridge on the Big Levels Refuge. The purpose of this hunt, on the wildlife experimental area, was to demonstrate and learn facts concerning deer herd management that could be applied to other areas in Virginia.

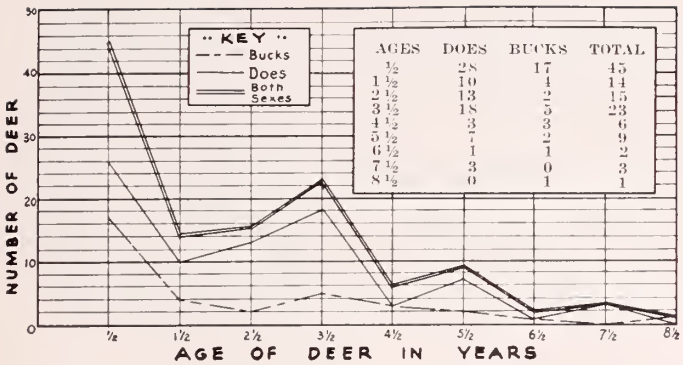
Those readers not acquainted with Big Levels perhaps would be interested in a brief history of the area. The refuge is located approximately 10 miles south of the City of Waynesboro, in the Blue Ridge Mountains. The land is mostly mountain land of sandstone ridges, indicating that the soil is low in fertility. It was proclaimed a Federal Game Refuge on July 6, 1935, by the late President Franklin D. Roosevelt. The Virginia General Assembly passed a law in March 1936, ceding wildlife rights on the area to the Federal Government. This fact makes Big Levels unique. It is the one place in Virginia where the game does not belong to the state. Numerous experiments have been carried out at this field laboratory of wildlife management since its founding.

Senator A. Willis Robertson, then a member of the House of Representatives and previously a member of the Virginia Commission of Game and Inland Fisheries, dedicated this 30,000 acres for the use and benefit of present and future generations on September 29, 1940. The dedication ceremonies were sponsored by the Waynesboro Game and Fish Protective Association. The Waynesboro organization did yeoman work toward establishing the refuge and making it a success.

Sixty-seven deer were stocked on the area between 1933 and 1940, through the joint efforts of the Virginia Commission of Game and Inland Fisheries and the U. S. Forest Service. The real highlight of this work was that the cost of transporting these deer, most of them from the Pisgah National Forest in North Carolina, was defrayed by contributions from school children, farmers, sportsmen, and business firms. Justus H. Cline, eminent conservationist, of Stuarts Draft, spearheaded the early development of Big Levels.

As the deer herds in the western part of Virginia have increased, it has become apparent that a more liberal attitude toward harvesting will be necessary. With this thought in mind, it was decided that Big Levels could once again serve as a field laboratory to demonstrate that the deer herd could be harvested on a more liberal basis, and that they could be maintained in desirable numbers commensurate with their food supply, the needs of other game species, and good forestry practices. The impact of too large a deer herd on other species of game, turkeys in particular, should be avoided. Remember, turkeys and deer are both forest game animals and compete for the same foods.

Wildlife technicians are beginning to find that a permanent refuge for deer is not a good wildlife management practice. Practically all of our mistakes in deer herd management have been in being too conservative with the harvest. Look at such examples as Pennsylvania, Michigan, Wisconsin, and North Carolina. *We cannot wait until the food is gone; we must anticipate such conditions and prevent them from happening.*



AGES	DOES	BUCKS	TOTAL
½	28	17	45
1½	10	4	14
2½	13	2	15
3½	18	5	23
4½	3	3	6
5½	7	2	9
6½	1	1	2
7½	3	0	3
8½	0	1	1

Chart showing the distribution by age classes of the deer killed during the Big Levels managed hunt.

Those in charge of administering our wildlife resources were concerned about opening such an area as Big Levels to everyone because of the tremendous hunting pressure which would result on a refuge being opened for the first time. This was particularly the case if antlerless (doe) deer were to be taken. Shooting does was considered essential to the experiment. Because of this, it was decided to limit the number of hunters to 650. Of this number 24 permits were given to landowners whose lands adjoined the refuge. Permits were distributed free of charge through a system that was fair to all applicants. Five-hundred and thirty-two of the applicants showed up for the hunt. This taught us that in future hunts of this type we can expect 80 per cent of the permittees to take part in the hunt.

With a five day hunting season, some people think that the same number of deer will be killed each day. On the Big Levels hunt, 49 per cent of the total kill was made the first day. This information is quite similar to other data collected in the state. It shows that the effect of one or two additional days, on the end of the season, does not have the effect that some persons believe. The first day's kill is the greatest, and it rapidly falls off as the season progresses. It also proved that the number of deer desired can be removed in about three days.

We first thought about having a "deer" season (hunters choice, either sex), on Big Levels. This would demonstrate the most liberal attitude in harvesting deer. Pennsylvania advocates having either bucks or does legal game, but not both at the same time for safety reasons. Therefore, we planned to have antlerless deer legal game the first three days, and bucks legal game the last two days. On the other hand, states, such as New Hampshire, Maine, and West Virginia, have found that a "hunter's choice" on deer has not increased the number of accidents.

The hunters killed a total of 120 deer during the five day season on the Big Levels. One hunter out of four got his deer. Of this 120 deer, 35 were bucks and 85 were does. This is a sex ratio of 29 per cent bucks to 71 per cent does. Perhaps if a "hunter's choice" had been used the sex ratio would have been closer to 50-50. It appears hard for deer hunters to believe that with a "hunter's choice" season you get a 50-50 kill. Look at our neighbor, West Virginia, which had its "hunter's choice" season this year. You would expect a large number of does to be killed the first year such a season was tried, because of the lack of fear of man that does have. However, West Virginia reports a deer kill during the 1951 season of 21,871 deer of both sexes, 53.4 per cent females and 46.6 per cent males. The state of New Hampshire, which has had a "hunter's

A clearing on the Refuge designed to stimulate the growth of deer food plants. (In circle) Note how growth has been browsed down to the bare soil.

Commission photos by Kesteloo

Photos by G. H. Brown

Scenes from the Big Levels managed hunt. (Left photo) A group of hunters display one of the few large deer taken at Big Levels. (Center photo) Accurate data, including weights, were kept of kills during the five-day hunt. (Right photo) Many of the deer killed were under-sized, and poor, indicating a food shortage.

choice" season for more than 10 years, always reports a ratio of approximately 55 per cent bucks to 45 per cent does, and their deer kill is increasing each year. Maine, with its "hunter's choice", kills about 60 per cent bucks to 40 per cent does, and the deer appear to be getting larger each year.

Weights and ages were obtained from practically all of the deer killed at Big Levels, through the help and cooperation of wildlife students from the Cooperative Wildlife Research Unit in Blacksburg. Dr. Henry Mosby, unit leader, worked up the data on weights and found the average doe (6 months to 7½ years) had a live weight of 81.5 pounds. The average buck (6 months to 8½ years) had a live weight of 80.2 pounds. A closer insight into sizes is obtained when it it realized that 45 of the 120 deer killed were fawns (6 months or less), with female average live weight of 44.6 pounds, and male live weight of 50 pounds. One fawn was brought into a checking station that weighed 22 pounds hog dressed. The sportsman naturally wants to know if this is an indication of poor deer condition. Before answering that question, remember that the source of these deer is from the South. Those deer hunters acquainted with the stock brought in from Pennsylvania and Wisconsin know that the northern deer are larger in size. Mammalogists recognize these deer as two different subspecies of the Virginia white-tailed deer. These deer from Big Levels should be averaging heavier weights than they do. Deer in the fall of the year can be expected to be in good flesh. They have just finished feeding during a season when their foods are most abundant.

For another look at the condition of the deer and their relation to range conditions, look at their antler development. Biologists have found that deer 1½ years old, on good feed, should have forked antlers, at least four, and perhaps as many as eight points. Of the 18 bucks 1½ years old or older, only 9 had at least a fork on one antler. This in all probability is an indication that the range conditions are not at their best. Antler growth is an indication of the vigor of a buck, and his vigor is controlled by the quality of his food. Some biologists have said that it takes as much energy for a buck to grow a set of antlers as it does for a doe to produce a fawn. To get this energy, it takes teeth in good condition and an abundant supply of good nutritious food. As the teeth wear out, or the range conditions deteriorate, the result would be the same: poor antler development, small fawns, and lower production of fawns.

Our data on ages of deer killed were similar to that collected in other states. In view of the fact that the refuge has not been open to any hunting since 1935, it might be assumed that some very old deer would be present. Such was not the case, according to age-class information. We lose more deer during the year than is realized by the public. The largest kill was made in the 6 month old age-class, just as was expected. More deer were killed in the 3½ year old age-class than were killed in the 1½ or 2½ year old age-class. This would indicate that we have lost deer in those age-classes that we did not know about. The lack of deer in the older age-classes indicates that we are losing deer from older groups as well. It shows that accidents, predation, and possibly disease take a greater toll of our deer herd than is realized. Apparently very few of our deer are going to live to reach the 6½ or 7½ year old class. Perhaps we should look at our buck law a little more critically. Under the buck law we are not harvesting that portion of the herd that is being lost to "causes unknown".

What was found out at Big Levels? The deer

were not large or old. Neither were there deer with large sets of antlers. Such conditions indicate poor range and an annual mortality. The deer removed from the area will not noticeably decrease the herd; there is an abundance of deer left on the area. There is a great mortality of deer on the area due to several possible causes. Many of these deer could and should be harvested by hunters. A "hunter's choice" season could be used without any additional danger to the hunter. Additional days on the end of the hunting season do not increase the kill appreciably. Hunters walking into an area will not hunt much farther than one or two miles beyond their entry points. The heart of the refuge was hardly hunted at all.

What of the future of Big Levels? There was too much regulation last year. It should be reduced. Big Levels could conceivably be opened this year with no restrictions other than that hunters check in and have their deer weighed, measured, and aged. However, the same problems will be faced as last year. These things could be done only if a large area west of the Blue Ridge were opened under the same regulations as Big Levels.

Conservation means "wise use of our natural resources", and all too often we overlook the term "use" in that definition. Many folks, farmers, sportsmen, and land managers alike, feel that the deer herd will now support a liberal kill. There is evidence that in some areas west of the Blue Ridge we are getting on the "late side" in our deer harvesting. It is inimical to the interests of the sportsmen, farmers, and wildlife administrators to let deer get too numerous and expand beyond the carrying capacity of the range - - - and it is just as bad for the deer themselves.

WET OR DRY

(*Continued from page* 9)

your fly rod you have no problem as to whether you should fish wet or dry for you can catch them either on streamers or popping bugs. I am inclined to think that if you tried a large dry fly you would probably get them but only a trial will tell as to this.

One thing is certainly true with the fresh water fish. If they can be caught on wet flies they can also be taken on dry flies. There are times when the best offerings of dry flies are ignored but there are other times when the dry flies will beat the wet forty ways for Sunday, as the old saying goes. Which time is best for which you can only find out by trial and error or by fishing with, and learning from other more experienced fishermen.

Any way you take it, if you have been fishing by only one of the two methods you have been missing a lot of good fishing. If your tackle box includes only wet flies there will be many days when you might have done better if you had had some dry flies along. So, too, the purist who insists on dry flies or nothing is going to come home some days empty-handed when he might have brought home fish.

Be versatile and try both methods. You will add a lot to your fishing pleasure for you will catch a lot more fish.

THE YOUNG AND THE OLD OF IT

There has always been much interest in the designations of the male, female and young of various animals, particularly those that come under the classification of wildlife. "Just how some of these designations were determined seems shrouded in considerable mystery," says Henry P. Davis, public relations manager, Remington Arms Company, Inc., "but the matter is an interesting one at least, despite the attendant confusion. For instance, why should a very young rabbit be called a fawn, the same as the young of a deer or caribou? Below is a list of some designations, which has been compiled by L. H. Olander, a director of the Salt Lake County (Utah) Fish and Game Association. If any readers have further names to add to this list, I'd like to have them and will pass them along to Mr. Olander."

Animal	*Male*	*Female*	*Young*
Elk, moose, cattle, seal, elephant, giraffe, whale, walrus, buffalo	Bull	Cow	Calf
Rabbit, caribou, mule or white-tail deer	Buck	Doe	Fawn
Red Deer*	Stag	Hind	Fawn
Antelope**	Buck	Doe	Kid
Wolves, Coyotes	(?)	Bitch	Whelp, pup, cub
Fox	Dog fox	Vixen	Whelp, kit
Cats (large)	Tom	Lioness, tigress	Cub
Cats (small)	Tom	Tabby	Kitten
Beaver, mink, muskrat			Kit
Sheep	Ram	Ewe	Lamb
Goats	Billy	Nanny	Kid
Swine	Boar	Sow	Shoat
Pheasant, quail	Cock	Hen	Chick
Swan	Cob	Pen	Cygnet
Ducks	Drake	Duck (?)	Duckling
Geese	Gander	Goose	Gosling
Trout	Buck	Female	Fry
Shark	Bull	(?)	Cub

*A male red deer, over five years old, is referred to as a "hart."

**At the 1946 Western Game and Fish Commissioners Convention, it was generally agreed upon by the eleven Western states that a young antelope should be referred to as a fawn.

COMMONWEALTH OF VIRGINIA
COMMISSION OF GAME AND INLAND FISHERIES
RICHMOND, VIRGINIA
LIST OF RESTOCKED WATERS AND WATERS OPEN TO PUBLIC FISHING, ACCORDING TO LATEST INFORMATION AVAILABLE 1951-1952 Restocking

LEGEND

B	Bream	RB	Rock Bass	CGIF	Commission of Game and Inland Fisheries	N	Northern	SW	Southwestern
C	Crappie	R	River	FWS	Fish & Wildlife Service	NE	Northeastern	SC	South-central
S	Sunfish	P	Perch	DCD	Dept. of Conservation & Development	NW	Northwestern	W	Western
BT	Brook Trout	SMB	Smallmouth Bass	*	Not stocked during 1951-52 by Comm. of Game and Inland Fisheries	NC	North-central	E	Eastern
RT	Rainbow Trout	LMB	Largemouth Bass			S	Southern	C	Central
						SE	Southeastern		

County	Water	No. of Acres	No. of Boats	Owner or Concessionaire	Section of County	Species Stocked
Albemarle	Lake Albemarle				W	LMB
	Moorman's River (*Trout* — just above lake to near park area—*Bass & Sunfish*—from White Hall bridge south to Blue Hole)				NW	RB,S,RT,BT
	Moorman's River, So. Fk.				W	RT,BT
	Rivanna River, No. Fk.				N	B
	Rivanna R., So. Fk.				N	B
Alleghany	*Cowpasture River				NE	SMB,S
	Lake Douthat	50	20	DCD Open 6/1-9/15	S	LMB
	Jackson River				W	SMB,S
	*Pikes Pond	25		Clifton Forge Rod & Gun Club	W	LMB
	Potts Creek				SC	RT
	Simpson Creek				NE	BT,RT
Amelia	Beaver Pond	196	10	S. S. Watkins Amelia, Va.	S	LMB,C
Amherst	Buffalo R., No. Fk.				NW	BT
	Pedlar River				W	BT,RT
	Little Piney				NE	BT,RT
	Piney River proper				NE	BT
Appomattox	Holiday Lake	145	12	DCD Open 6/20-11/30	Appomattox-Buckingham Co. line thru center of lake	LMB,C
	Phoebe Pond	4½		R. W. Cullahan Concord N&W RR, owner	W	LMB,C
Augusta	Back Creek				SE	BT
	Crawford's Branch or Eastern Dry Branch				W	BT
	*Mossy Creek Dam				N	B,S
	*Mt. Solon Dam				NE	
	North R. (stocked through gorge)				N	BT
	Ramsey's Draft				W	BT,RT
	*Sherando Lake	21		G. W. Nat'l Forest	SE	LMB,B
Bath	Big Back Creek (stk. thru gorge)				W	BT,RT
	Big Back Creek (above gorge)				W	SMB,S
	Bullpasture River				NE	BT,RT
	*Douthat Lake	50	20	DCD Open 6/1-9/15	S	LMB
	Mare's Run				C	BT
	Thompson's Creek				C	BT,RT
Bedford	Bedford County Lake	32	18	Bedford County	NE	LMB,C
Bland	Clear Creek				W	BT,RT
	Dismal River				SW	BT,RT
	Hunting Camp Creek				W	BT,RT
	Lick Creek				S	RT,RT
	Nobusiness Creek				N	BT,RT
	Wolf Creek				W	RT
Botetourt	Back Creek				E	BT,RT
	Jennings Creek, N. F.				NE	BT,RT
	Jennings Creek, S. F.				SE	BT,RT
	Mill Creek				N	BT,RT
	Roaring Run				W	BT,RT
Brunswick	Great Creek				WC	B
	Pea Hill Creek				S	B
	Poplar Creek				SW	B
	Rattlesnake Creek				S	B
	Reedy Creek				E	B
	Rose Creek				WC	B
	Sturgeon Creek				N	B
	Watqua Creek				N	B
Buchanan	Dismal River				E	SMB,S
	Russell Fork River				S	RB,S
	Slate River				C	BT
Buckingham	Horsepen Lake	23		S.E. For. Exp. Station	S	LMB
	Slate River				W	B
Campbell	*College Lake	40		Lynchburg Col.	W	LMB,C,B
	Timber Lake	80	yes	W. C. Tinsley Lynchburg, Va.	NW	LMB
Caroline	*Cooks Millpond	13½		D. L. Cook Bowling Green	C	LMB,B
	*Goose Pond	100	2	H. V. Carter Box 66, Milford	C	B
Carroll	Big Reed Island Creek				NE	RT
	*Billsby Dam	13		Appala. E&P Co. I. D. Clark, Ivanhoe	W	
	Crooked Creek				SW	RT
	Little Reed Island Creek				N	RT
	Road Creek				N	BT,RT
	Stone Mountain Creek				N	BT,RT
	Stuart Creek				S	BT,RT
Charles City	Harrison Lake			FWS	S	
Charlotte	Cub Creek				W	B
Chesterfield	James River				N	LMB,C,S
	Lakeview Dam	150	20	J. Furman, Rt. 3 Petersburg	SE	LMB,C,B
	Swift Creek Lake	156	10	DCD	SC	LMB,B
	Third Branch Lake			DCD	SC	LMB,B
Clarke	Shenandoah River				W	SMB,S
Craig	Barbours Creek				N	BT
	Craigs Creek				SE	SMB,S
	Meadow Creek				E	RT
Culpeper	Cedar Run				S	S
	Hazel River				N	SMB,S
	Mountain Run				C	S
	Muddy Run				NW	S
Cumberland	Bear Creek Lake	55	12	DCD Open 6/20-11/30	WC	LMB
	Sports Lake	100	5	A. M. Johnson 1214 W. Franklin Street, Richmond	E	LMB,C
	Trice's Lake or Clearwater Lake	156		T. H. Kent 3012 Kensington Ave., Richmond	C	LMB,C
	Willis River				W	B
	Winston Lake	10		DCD Open 6/20-11/30	C	LMB
Dickenson	McClure River				C	RB,S
	Pound River				W	RB,S
	Russell Fork River				N	RB,S
Dinwiddie	*Baskerville Mill Pond	20		C. F. Baskerville Dinwiddie	SW	LMB,B,C
	Coleman's Pond	142	16	E. W. Coleman Ford	NC	LMB,C
	Nottoway River				S	B,C
	Rowanty Creek				E	B,C
	Stony Creek				C	B,C
	Harry Wheeler's Pond	75		J. P. Gilliam Church Road, Va.	C	LMB,C
Elizabeth City	Big Bethel Reservoir			OPEN TO SERVICEMEN ONLY		
Essex	Hoskins Creek				C	LMB,B
	Mt. Landing Creek				C	LMB,B
	Occupacia Creek				N	LMB,B
	Piscataway Creek				E	LMB,B
Fauquier	Big Branch				NW	B
	Crooked Run				NW	B
	Deep Run				SE	B
	Elk Run				SE	B
	Fiery Run				W	B
	Licking Run				E	B
	Owl Run				E	B
	Rappahannock River				S	SMB,S
	Thumb Run				W	B
	Turkey Run				NC	B
Floyd	Beaver Creek				N	BT,RT
	Burkes Fork				S	BT,RT
	Goose Creek				NE	BT,RT
	Howell Creek				E	BT,RT
	Indian Creek				W	BT,RT
	Meadow Creek				E	BT,RT
	Rush Fork				E	BT,RT
	West Fork Creek				E	BT,RT
Franklin	Altice Pond	1			NC	LMB
	*Angles Mill Pond	20			SE	C,S
	Arrington's Mill Pond				NE	LMB
	Blackwater R., N. Prong				NC	BT,RT
	Clement's Millpond				NC	LMB
	Green Creek				W	BT
	*Hancock's Mill Pond	35			S	C,S
	Laprade's Mill Pond				E	LMB
	McNeil's Mill Pond	10			S	C,S
	Rocky Mt. Power Dam	150			C	
	Runnett's Bag				NW	BT,RT
	Stephen's Mill Pond				W	LMB
Frederick	Back Creek				NW	BT
	Cedar Creek				SW	BT,RT
	Opequon Creek				E	BT,RT
	Paddy Run				SW	BT
Giles	Big Stony Creek				W	BT,RT
	Mill Creek				W	BT
	Mountain Lake				NE	RT
	Walker's Creek				S	SMB,S
	Wolf Creek				W	SMB,S
Gloucester	Burkes Mill Pond	60	6	Fred J. Mason James Store, Va.	E	LMB
Grayson	Big Wilson				W	BT,RT
	Chestnut Creek				E	BT,RT
	Elk Creek				NE	BT,RT
	Fox Creek				W	BT,RT
	Helton Creek				NE	BT,RT
	Middle Fox Creek				W	BT,RT
	New River				E	SMB,S
	Peach Bottom Creek				S	RT
Greene	South River				N	BT,RT
	Swift Run				W	BT,RT
Greensville	Doyles Pond	75	12	W. G. Doyle Emporia, Va.	SW	LMB
	Rainey Pond			W. F. Rainey Emporia	SE	LMB,B
	Slagle's Lake				C	LMB
Halifax	Halifax Power Dam	250		VEPCO. W. W. Waldrop, South Boston	C	LMB,C,
	*Poole's or Hite's Millpond			A. E. Hite Virgilina, Va.	E	
Hanover	*Beattie's Mill Pond	70		J. M. Beattie Ellerson, Va.	S	LMB,B
	*Cross Pond	20	2	W. L. Cross (closed Sunday) Ashland, Va.	C	LMB,B

County	Water	Acres	No. of Boats	Owner or Concessionaire	Section of County	Species Stocked
	*Crump's Pond	1	--	Hanover Industrial School (fishing by permission)		
	Duggan's Lake	30	13	Mrs. Kate Duggan Ellerson, Va.	S	LMB
	*Fulcher's Mill Pond	60	--	J. E. Jones Beaverdam, Va.	NW	LMB,B,C
	*Hanover Wayside Pond	4½	--	Va. H'wy. Dept.	NE	
	Little River	---	--		NW	LMB,B
	South Anna River	---	--		SW	B
	Woodson's Pond	25	--	E. J. Woodson Beaverdam, Va.	NW	LMB,S
Henry	Horsepasture River	---	--		W	BT,RT
	Smith River	---	--		SE	SMB,S
Highland	Back Creek	---	--		SW	BT
	Bullpasture River	---	--		N,SC	BT,RT
	Davis Run	---	--		C	BT,RT
	Jackson River (below Gardner's Extract Plant)	---	--		SW	BT,RT
	Jackson R. (Headwaters)	---	--		SW	BT
	Laurel Fork	---	--		NW	BT
	Potomac River, South Branch (or Crabbottom Creek)	---	--		NW	BT,RT
James City	Gordon's Creek	---	--		SW	LMB
	Morris Creek	---	--		SW	LMB
	Nettles Creek	---	--		SW	LMB
	Powell's Lake	100	14	Mrs. H. A. Powell Rt. 1, Williamsburg, open 6/20-3/15	S	LMB,B
	Tomahund Creek	---	--		SW	LMB
King William	Mattaponi River	---	--		N	LMB
	Mitchell's Pond	35	10	O. O. Mitchell Mangohick, Va.	N	LMB
Lee	Indian Creek	---	--		SW	RB,S
	Powell River	---	--		S,N	RB,S
	Powell River, N. F.	---	--		N	RT
	Wallen Creek	---	--		S	RB,S
Loudoun	Broad Run	---	--		E	LMB,C
	Goose Creek	---	--		SC	SMB,S
Louisa	Little River	---	--		E	LMB,B
	North Anna River	---	--		N	B
	South Anna River	---	--		SC	LMB,B
Madison	*Collin's Pond	3	--	G. N. Collins Wolftown, Va.	SE	C,S
	Hughes River	---	--		N	BT,RT
	Madison Power Dam	---	--		E	LMB,B
	Rapidan River	---	--		SW	BT,RT
	Robinson River	---	--		NE	BT,RT
	Rose River	---	--			BT,RT
Mecklenburg	Lake Gordon	157	30	CGIF	E	LMB,B,C
Middlesex	Dragon River	---	--		C	LMB,B
Montgomery	Bottom Creek	---	--		S	BT,RT
	Little River	---	--		S	SMB,S
	Radford Dam on the Little River	100	--	W. T. Wells City Mgr., Radford, Closed 1/1-6/19 Restricted fishing	SW	B,C,S
	Roanoke River, S.F.	---	--		SE	BT,RT
Nansemond	Lake Cahoon	585	80	Portsmouth Water Dept. Closed 3/15-5/30. Closed Sunday. No bank fishing. No children under 9. Permit sold at lake.	N	
	Lake Kilby	190	25	Portsmouth Water Dept. Special open and close dates. Closed Monday. No bank fishing, no motors.	C	
	Lake Prince	950	13	Norfolk Div. Water Supply. Permit fee 50¢. Closed Monday. Open 6/20-3/15	NW	
	Wagner's or Scrugg's Pond	120	10	E. O. Simons R.F.D., Windsor	W	
Nelson	Stony Creek	---	--		N	BT
	Tye River, North Fork	---	--		NW	BT,RT
	Tye River, Proper	---	--		N,SW	BT,RT
New Kent	Walker's Dam on Chickahominy River	---	--		SE	LMB
Norfolk	*Lake Bradford —open to servicemen only				N	
Northumberland	Ingram's Pond (Hurst or Mt. Olive)	---	--	H. C. Thorndyke Wicomico Church, Va.	S	LMB,C
Nottoway	Nottoway Pond or Crystal Lake	75	50	N&W RR	C	LMB
Orange	Rapidan River	---	--		N,NW	SMB
Page	Cub Run	---	--		SW	BT
	East Hawksbill Creek	---	--		C	RT,BT
	Pitt Spring	---	--		SW	BT
	Shenandoah River, S. F.	---	--		SW	SMB,S
	Shenandoah River, N. F.	---	--		NW	SMB,S
Patrick	*Appalachian Power Dam	---	--	Appalachian Power Co. D. J. Hewitt, Stuart, Va.	S	S
	Arrarat River	---	--		NE	BT,RT
	Big Ivy Creek	---	--		WC	BT,RT
	Dan River	---	--		W	BT,RT
	Dan River, below power house				W	BT,RT
	Fairystone Lake	168	20	DCD Open for fishing 6/20-3/15, boats 6/1-9/15	NE	LMB
	Hooker's Creek	---	--		S	BT,RT
	Mayo River, North Fork	---	--		NE	BT,RT
	Mayo River, South Fork	---	--		SE	BT,RT
	Poorhouse River	---	--		NW	BT,RT
	Rock Castle Creek	---	--		NW	BT,RT
	Round Meadow	---	--		WC	BT,RT
Petersburg (City)	Wilcox Lake	30	6	City		
Pittsylvania	*Cedar Forest Pond	15	--	J. R. Hale Altavista	E	LMB,B,C
	Turbin's Lake	---	--		S	B
Prince Edward	Goodwin Lake	10	--	DCD Open 6/20-11/30	SE	LMB
	Prince Edward Lake	37	--	6/20-11/30	SE	LMB
Prince George	Baxter's Pond	42	--	CGIF	C	LMB
	Lake Binford	69	8	Judge W. F. Binford Prince Geo.	C	LMB
	*Community Fishing Pond	8	1			
	Lake Hunt	15	2	Judge Binford	C	LMB,B
Princess Anne	*Back Bay	---	--		SE	LMB,RB,C,P
	*Lake Holly	20	--	Norfolk Water Division	E	LMB
	*Lake Smith	---	--	Supply permit fee of 50¢, open 6/20-3/15	E	LMB
Prince William	Broad Run	---	--		W,SE	B
	Bull Run	---	--		NW	LMB
	Cedar Run	---	--		E	B
	Kettle Run	---	--		SW,C	B
	Lake Jackson	750	2	C. W. Alpaugh Pres. Lake Jackson Hills, Manassas, Va.	C	LMB
	Occoquan Run	---	--		E	B
	Ryon's or Delafield's Lake	628	--	Occoquan Hydro-Elec. Power Co. Hoadly, Va.	E	LMB
Pulaski	Claytor Lake	4,485	yes		E	LMB
	Max Creek	---	--		S	BT,RT
Rappahannock	Piney River	---	--		N	BT
	Thornton River, N. F.	---	--		NE	RT
Richmond	Cat Point Creek	---	--		E	LMB,C
	Totuskey Creek	---	--		E	LMB,C
Richmond (City)	Swan Lake	13	--	City		LMB
	Forest Hill Lake	3	--	City		LMB
Roanoke	*Carvin Cove Dam	650	--	City of Roanoke City Treasurer, Open 6/20-12/31	E	LMB
	Glade Creek	---	--		E	BT,RT
Rockbridge	Bratton's Run	---	--		W	BT
	Irish Creek	---	--		E	BT,RT
	Mill Creek	---	--		SW	BT
	North, or Maury's R.	---	--		E	SMB,S
	South River	---	--		E	RT
Rockingham	Briery Branch	---	--		SW	BT
	Dayton, or Silver Lake	11	12	City of Harrisonburg Water Dept. Closed Sunday	SC	BT
	Dry River	---	--		W	BT,RT
	Spring Creek	---	--		N	BT
Russell	Big Cedar Creek	---	--		S	SMB,S
	Clinch River	---	--		W	SMB,S
Scott	Cove Creek	---	--		NW	BT
	Stock Creek	---	--		NW	BT,RT
	Stony Creek	---	--		W	RT
Shenandoah	Big Stony	---	--		WC	BT,RT
	Cedar Creek	---	--		N	BT,RT
	Little Stony	---	--		W	BT
	Passage Creek	---	--		E	BT,RT
	Shenandoah River, N. F.	---	--		N	SMB,S
Smyth	Comers Creek	---	--		S	BT
	Holston R., Middle Fork	---	--		S	SMB,RB,S
	Holston R., South Fork	---	--		C	RT,BT
	Hurricane Branch	---	--		S	BT
	Hungry Mother Lake	108	25	DCD Boats from 6/1-9/15. Fishing 6/20-3/15	C	LMB
	Laurel Fork	---	--		S	BT
Southampton	Nottoway River	---	--		SE	B,C
	Winborne Mill Pond	---	--	CGIF	SE	LMB
Spotsylvania	Ni River	---	--		NE	B
	Mat River	---	--		SE	B
	Rappahannock River	---	--		N	SMB,S
Surry	Sunken Meadow Pond	200	12	Mrs. Mabel Contenbader, Claremont	NW	LMB
Sussex	Airfield Mill Pond	200	12	CGIF	SE	LMB
	*Freeman's Pond	100	--	N&W RR	SE	LMB,B,C
	Harrell & Gray Pond	150	12	P. T. Harrell Waverley	SE	LMB
	*W. W. Harrell Pond	75	8	A. W. Harrell Jarratt		
	A. D. Mayes Pond	75	6	A. D. Mayes Stony Creek	W	LMB
	G. L. Parson Pond	5	5	G. L. Parson Stony Creek	W	LMB
	Sussex Game Refuge P.	---	--	CGIF	W	LMB
Tazewell	Clear Fork	---	--		E	RT
	Clinch River	---	--		C	SMB,S
	Cove Creek	---	--		NE	BT
	Laurel Creek	---	--		SE	BT,RT
	Little River	---	--		S	SMB,S
	Little Tumbling Creek	---	--		S	BT,RT
	Roaring Fork	---	--		S	BT
	Wolf Creek	---	--		E	BT,RT
Warren	Gooney Run	---	--		SE	BT,RT
	Shenandoah River, N. F.	---	--		E	SMB,S
	Shenandoah River, S. F.	---	--		SW	SMB,S
Washington	Big Tumbling Creek	---	--		N	BT
	Green Cove Creek	---	--		SE	BT
	*South Fork Holston River (above highway 58)	---	--		SE	SMB,S
	South Holston Reservoir	---	--		S	SMB,B,C
	Straight Creek	---	--		SE	BT
	White Top Laurel	---	--		SE	BT,RT
Westmoreland	Chandler's Mill Pond	---	--		C	LMB
Wise	Clear Creek	---	--		C	BT,RT
	Guest River	---	--		S	RB,S
	Pound River, N. F.	---	--		N	BT,RT
	Pound River, S. F.	---	--		N	BT,RT
	Powell River	---	--		S	RB,S
	Powell River, N. F. (or Roaring Fork)	---	--		SW	BT,RT
	Powell River, S. F.	---	--		SW	BT,RT
Wythe	Cripple Creek	---	--		NE	RT

Enjoy Native Plants Through Wise Use

By A. B. MASSEY

(Photos by L. G. Kesteloo and A. B. Massey)

"YOU cannot eat your cake and have it" is a familiar expression; however, such is not the case with our natural plant life. We can enjoy the use of our wild flowers and still have them, if we do so thoughtfully. This is what we mean by conservation. Use the plants wisely so that we can have them and they can perpetuate themselves. Some plants are not very productive and should be picked or transplanted very sparingly, if at all. Others may be used more freely.

The vegetative cover provided by native plants, or what we term "natural vegetation," is one of the earth's basic assets. Animal life could not exist in a world devoid of plants, and man himself is entirely dependent upon plants for his existence. The vegetation of the past ages developed the coal and oil which are so essential in our lives today. The soils of our farms owe their fertility to the vegetation of the past.

While agriculture has made great progress in developing cultivated plants which produce more luxuriantly than their native ancestors, native plants are still of great importance to us. Much of the plant materials of the manufacturing and agricultural industries still comes from native vegetation. The very common native plants are derogatorily called weeds. While weeds do trouble us in our fields and gardens at times, they are useful in many ways. Commonly, they are exacting in their soil requirements, and they quickly take possession of denuded areas or abandoned fields, thus helping to prevent gully formation and general erosion. Organic matter from their decay aids materially in developing the soil. Broom-sedge has been considered by some people as a pasture and hay field pest. In reality, it is a blessing as many areas of mis-used land have been saved from extensive erosion by broom-sedge. When broom-sedge begins to appear in a pasture, it is "hand writing on the wall," signifying that fertilization and improved management is needed. Many of our drugs are derived from plant materials. Even the most showy of our ornamental plants have been developed from wild ancestors.

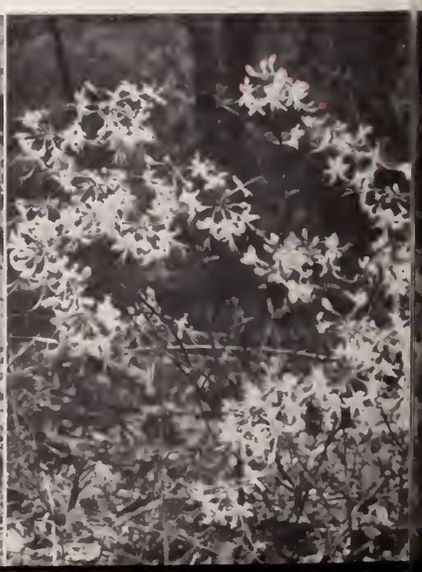
Since our native vegetation is of so much importance, it behooves us to conserve it through proper usage and protection. Plant conservation consists of the wise use of the vegetation and of the individual species which make it up. In developing a program for plant conservation we cannot compile a definite list of plants to be used, since no one list would fit all sections of Virginia. Even if the same plants are present in two sections, the conditions under which they grow may vary so widely as to require very different methods as to their use. The following set of rules outlines good plant conservation practice, for all sections of the state:

1. Do not destroy the vegetation over an area by clearing, burning, or draining before considering the probable effect upon the soil, the surface of the area, the underground and surface water, and upon wildlife. Avoid needless destruction and too severe an upset of nature's balance between plant and animal life.

Birdsfoot violet

Blue violet

Wild azalea



2. Do not cut shrubs or use native plants for mass decoration. Be moderate with the use of holly and other evergreens at Christmas time. Use lights and man-made materials for mass decoration, and be conservative with the evergreens. In the space of a few seconds man severs the life stream of a tree or shrub that nature has slowly developed over a period of years.

3. Do not pull the flowers of, or in any way disturb, the native plants which are not abundant in the region; in addition, be conservative and not wasteful of plants and flowers which are abundant in your county or region. A large colony in a place does not indicate abundance in the region. Gather for a particular purpose, and protect what you have gathered so that they will not wilt or be spoiled for your use. Dogwood is often abused by wrong handling of the flower bearing branches after cutting to take home. The four white bracts (incorrectly called petals of the flower) around each cluster of small flowers wilt very quickly unless they are protected from drying air currents while carrying them home.

4. Do not pull all, or even most, of the leaves on a plant when gathering flowers. Remember that the leaves serve as the kitchen of the plant, and that they prepare a large portion of the food required by the roots and other parts of the plant. When one gathers the flowers of yellow lady's slipper, or wild lilies, most of the leaves are taken, thus weakening the roots and remaining parts.

5. Do not pull all the flowers of a plant. After the flowers comes the seed; therefore, always leave enough flowers for a good crop of seed. Seed are important for the perpetuation of the species. Also bear in mind that seed of native plants are often nature's provision for food for wild animal life through the winter season.

6. Do not transplant native plants thoughtlessly. Consider carefully the environment in which you find the plant thriving. Can you give it the same conditions on your home grounds? Plants which have grown in their native haunts often have spreading root systems, hence cannot be as readily transplanted as can nursery plants which usually have a more clustered root system.

7. Help others to acquire a true appreciation of native plants and set the example by following a program of conservation. Appreciation follows understanding. By encouraging plant study we can insure that school children and others will develop an interest in and a love for our native plants.

8. Preserve and protect interesting plant habitats and natural areas. Through the activity of clubs or other groups, hunt out unspoiled areas where one finds an unusual assortment of native plants. In places of the kind establish a *native plant garden*, if the area is small, or a *plant reservation* over a large area, thus preserving a typical vegetation as well as species of plants. Introduce other native plants of the surrounding region. Use such areas primarily for educational purposes in the clubs, schools and the public.

A USE LIST OF NATIVE PLANTS WHICH HAS BEEN PROPOSED FOR VIRGINIA

These may be picked freely:

Arrowhead	Clover	Queen Anne's Lace
Aster	Daisy	Trumpet Vine
Buttercup	Dandelion	Wild Carrot
Bouncing Bet	Goldenrod	Wood Sorrel
Blue Violet	Joe Pye Weed	Yarrow

These may be picked sparingly:

Baneberry	Bluet	Mayapple
Bergamot	Dogtooth Violet	Partridgeberry
Blueflag	Foxglove	Wild Rose
Butterfly Weed	Milkweed	Wild Ginger

These should be left to multiply:

Arbutus	Cardinal Flower	Moccasin Flower
Atamasco Lily	Gentian	Orchid
Birdsfoot Violet	Holly	Trillium
Bittersweet	Harebell	Wild Geranium
Bluebell	Hepatica	Wood Anemone
Columbine	Jack-in-the-Pulpit	Flame Azalea
	Ground Pine and Running Cedar	

As previously stated, a list is not applicable over the entire state. In the Alleghanies, trailing arbutus may be picked sparingly. In parts of the Piedmont, the birdsfoot violet may be gathered freely. Columbine may be taken sparingly in the Alleghanies if one follows Rule 3 above.

Flowering dogwood **Atamasca lily** **Yellow lady's slipper**

Some facts on

VIRGINIA POISONOUS SNAKES

By EARNEST A. TAYLOR

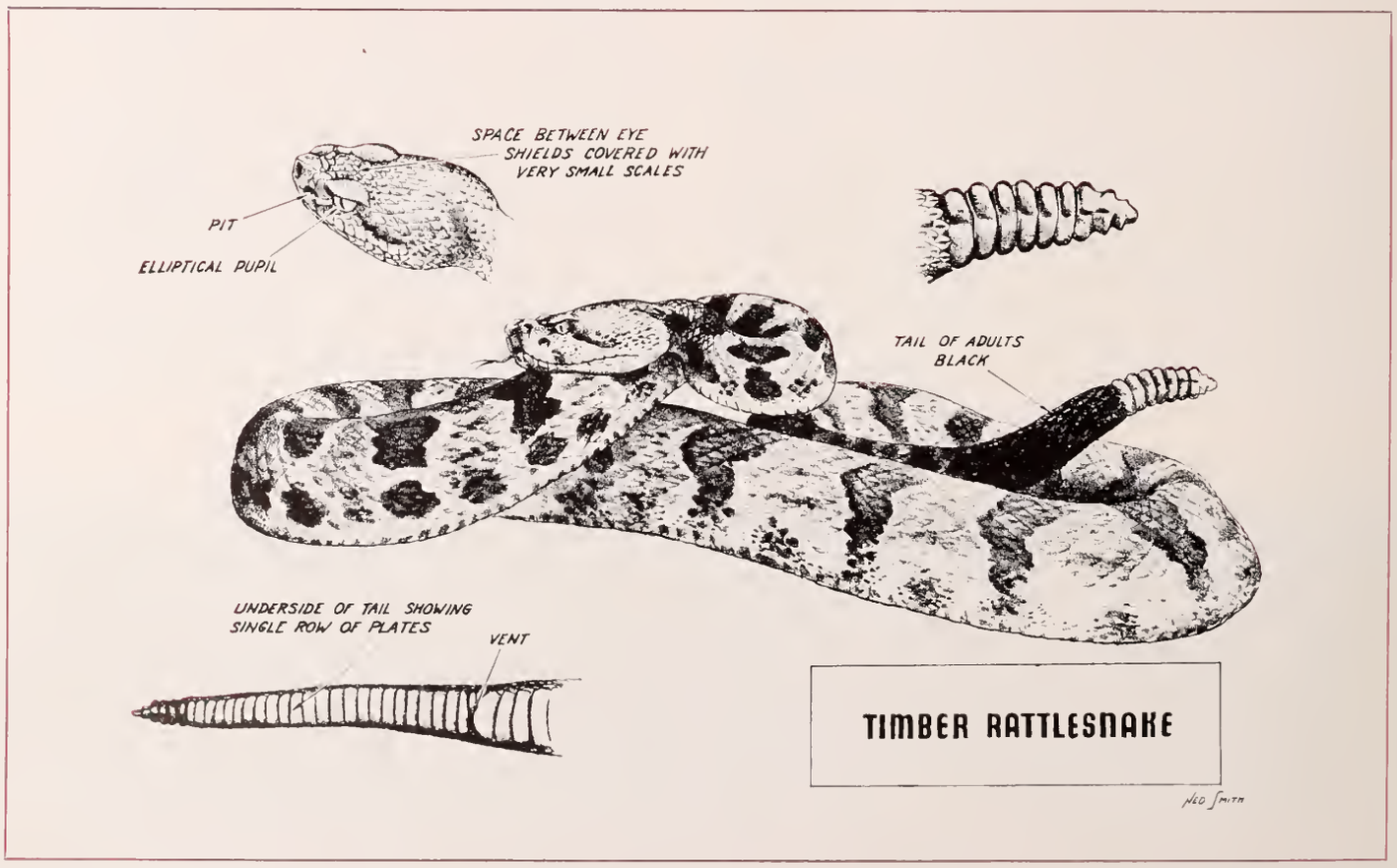
SNAKES had their beginning at the dawn of Creation. Biblical history would not be complete without some reference to *serpents*. Geologists have found numerous specimens of these reptiles firmly embedded in rocks, giving further evidence that snakes have had a long history. Surely these reptiles were of some value then, as they are today, even if they did no more than serve as food for larger animals. Although seldom the subject of debate, reptiles are arousing more and more interest among conservationists and field observers and there is a growing desire to know more about them.

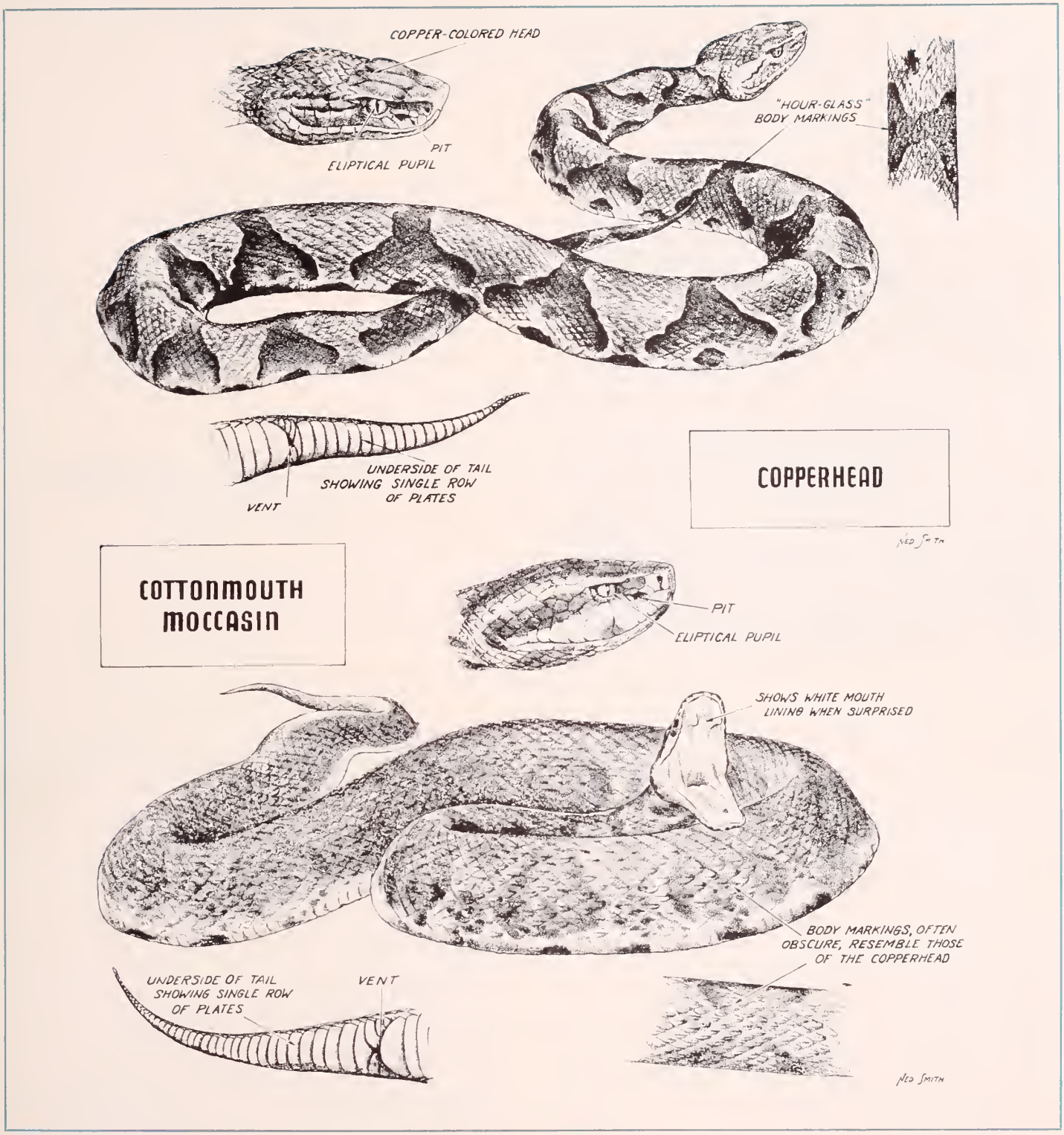
A great deal of misguided information is circulated about snakes, just as there was about the coyote in the Mid-west. An intense drive in the grasslands aimed at exterminating the coyote, an animal accused of many crimes against the livestock and poultry farmers, almost boomeranged. There they almost succeeded in wiping out the species in some sections. Left unchecked by the predacious habit of the coyote, rabbits and rodents began to get out of hand. Within a year's time farmers were encouraging this animal's return that it might once more control the destructive rodents.

Laboratory inspection of the viscera of snakes shows a preponderance of rodents. One important herpetological center revealed that reptiles eat from two to four times their own weight in rodents each month. Such value is immeasurable.

When it comes down to making comparisons of the varieties of snakes found in each state, Virginia, with her variable terrain, can boast of as many varieties as practically any other of the 48 states. But, because of the tremendous number of snakes to be dealt with, this discussion will be limited to the poisonous varieties of the state.

Virginia's poisonous snakes are confined largely to two habitats: first, the rocky cliffs and ledges and woodlands where fallen logs and rotted stumps provide such foods as insects, rodents, and lesser forms





of animal life; and secondly, low areas along the water courses of the tidewater, particularly brackish or fresh water swamps, marshes, and ponds.

This state has three recognized species of poisonous snakes: the timber rattlesnake, of the uplands; the copperhead, sometimes called the highland moccasin; and the cottonmouth moccasin, found along the tidewater inland reaches and brackish and fresh waters.

The timber rattler is found in two distinct color phases, the dark (black) phase and the light (yellow) phase. The former is characterized by reddish V-shaped cross bands along the entire body, latter by a reddish brown strip running down the body, tail black.

Specimens have been taken which were over five feet long, but the usual length attained is much smaller. This member of the pit-viper group has a lance shaped head, the pit lying in a line between the eyes and the nostrils. The depression is extremely sensitive and is said to aid the snake in sensing

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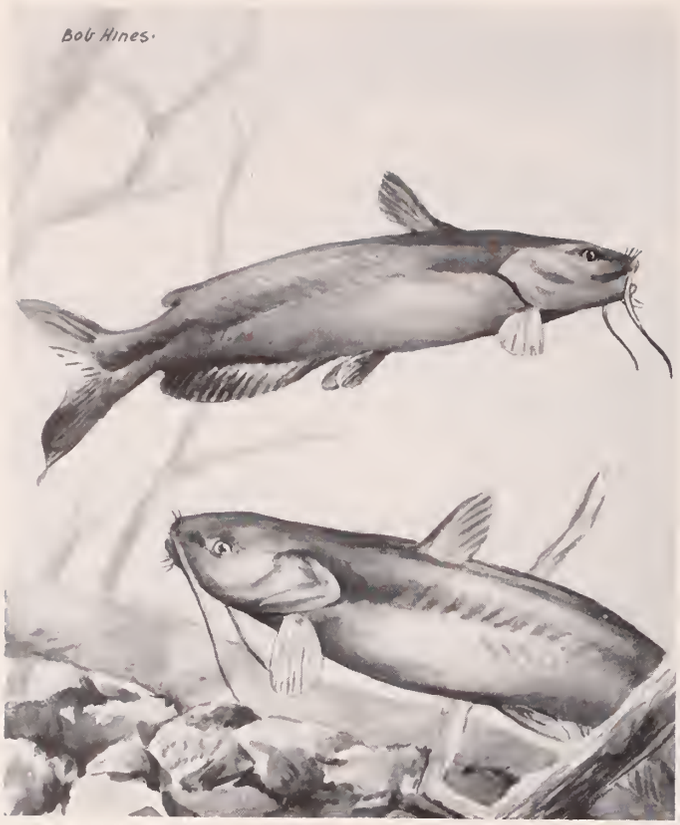

Virginia's Inland Fish Series

THE CHANNEL CATFISH

(Ictalurus lacustris)

THE CATFISH IS UNIQUE among fishes. It is distinguished from all others of Virginia's inland fish by its smooth scaleless body, eight fleshy "whiskers" on the head, and sharp spines on each pectoral fin. Two notable species of catfish are found in Virginia, the blue and the channel catfishes.

These two catfishes differ in size, color, and habits, but because of limited space the channel cat is the only one that will be considered.

The channel cat is found throughout the Mississippi drainage, which includes Virginia. Although found in turbid, sluggish waters, it favors the cleaner, moderately large streams. It attains weights of 25 pounds, but specimens over 12 to 15 pounds are rare.

Channel cats are silvery-gray, and profusely marked with dark spots. The channel cat can be distinguished from the blue catfish by the number of rays in the anal fin, the channel catfish having 24 to 29 rays, the blue catfish from 30 to 35.

Channel catfish eat anything, dead or alive. They feed by taste, touch, and sight. The highly developed sensory system allows the catfish to feed in this manner. Insects and their larvae make up a great part of the natural diet, but snails, crayfish, worms, and fish also are eaten. Even grapes, weed seeds, and other vegetable materials are taken.

Contrary to popular belief, the channel cat is not particularly a bottom feeder. It is a nocturnal feeder that rises to the surface in search of its food. It will strike a spinner or minnow as quickly as a worm.

This fish is taken in goodly numbers in Virginia by commercial fishermen. This is especially true along the James River. The fish are generally sent to the mid-west, where they are sold on the market.

This fish is quite particular where it breeds, preferring obscure places to deposit its eggs. Old tin cans, hollow logs and underwater muskrat runs are used when available. They spawn when water temperatures are up around 75°F. Eggs are deposited in a gelatinous mass, and incubation is completed in 6 to 10 days. Although a large female may deposit up to 20,000 eggs, one to four pound females deposit from 2,000 to 3,000 eggs. The females reach sexual maturity at lengths of 13 to 16 inches with the male maturing slightly earlier. The male protects the nest after eggs are deposited.

Although considered to be an ugly fish, the catfish is a good fighter and makes good eating, and it thrives in waters where other fish are not much found. For these reasons, "Old Mr. Whiskers" is well entitled to a place on the game fish list in Virginia.

Virginia's Game Bird Series

THE AMERICAN COOT

(Fulica americana)

CONTRARY TO POPULAR BELIEF, the American coot is not a duck. It is a member of the rail family, and is closely related to the rails and gallinules. These birds are not to be confused with "scoters," which are often called "coots," but which are true ducks.

The coots breed north to New Brunswick and Quebec, and south to Florida. Some breed as far south as the Andes of South America. Although these birds winter in great numbers in Virginia's Tidewater, few, if any, are known to breed here.

The white bill, plump black body, and aquatic habitat are enough to identify the coot. It is the most aquatic member of its family. The toes have developed expanded pads which aid in swimming. It swims on even keel, nodding its head as it goes.

When feeding the coot tips up like a duck and can dive like a grebe. It runs over the surface of the water before taking flight, and is as interesting to watch as any of our most beautiful ducks. It will fight to defend itself and makes good use of its powerful, sharp-clawed feet.

Coots feed on land or water. They will eat grain, but underwater plants are their staple foods. Their love of algae makes them less of a competitor of ducks than is generally realized.

They associate freely with ducks on all types of water, including brackish or salt bays, but during the breeding season they confine themselves to shallow marsh-fringed ponds or open fresh water marshes. The nest is much like a cup lined with marsh vegetation. The 10 pinkish-buff, spotted eggs are deposited, and are hatched about 27 days later, but the young hatch at different times, with the first being watched by the cock while the hen sits on the remaining eggs. The young are black, with orange thread-like down on head and neck and with black-tipped, orange-red bills.

Coots babble in indescribable sounds, accompanied by much splashing and fussing. They toot, grunt, quack, squawk, cluck, and whistle, never seeming to make the same sound twice. Anyone who has ever seen these playful antics will admit that much of their value lies in their ability to entertain the observer.

These birds are not much respected by the average duck hunter, for they are not particularly tasty. Yet, they provide a high type of sport to many hunters. And they are usually abundant, a trait not many waterfowl can claim.

VIRGINIA POISONOUS SNAKES

(*Continued from page* 19)

danger. It has no external ear, and the eyes are vertically elliptical in daylight, and almost round at night when the snake is on the prowl. The fangs are long and erect with several sets for replacement if and when the first, or front, set becomes lost. On the lower front side of the fangs a vertical slot is seen, through which the venom is excreted. A membraneous tube connects this slot with the poison sac located in the upper mouth almost under the eyes. On each side of the fangs, in the upper mouth, there are permanent teeth which tend to lean backwards. In the lower jaw bones and on each side are other permanent teeth, somewhat larger than the upper teeth, which curve backwards to facilitate eating.

The hind part of the rattler's head is much larger than the neck, and the body assumes a much larger diameter continuing to the vent. From there the tail tapers rapidly, ending with the button and the rattle. The rattle does not denote age, but is the result of shedding. The outer skin is shed sometimes as many as four or five times each year, allowing for the growth of the reptile. The button at the end of the rattle is permanent, and is not affected by the shedding of the skin.

The characteristics of the copperhead are somewhat similar to those of the timber rattler. The shape of the head, eyes, fangs, tongue, fixed teeth, and size of body are about the same. This snake is also a member of the pit-vipers, and has the two color-phases. The markings resemble an hourglass and may be reddish-brown or deep chestnut-brown, edged in black margins. The top of the head is coppery-red hence the reason for the name, "copperhead." The tip of the tail may resemble a coppery collar, ranging from green to yellow. The snake attains a length of four feet, although larger specimens have been taken on rare occasions. The common length is around two and a half feet.

The food of the rattler and the copperhead are quite similar, consisting of small rodents, birds, eggs, insects, grubs, and frogs. The largest portion of the food of both species is rodents.

The food of this poisonous water-snake consists of trash fish, frogs, salamanders, crayfish, small turtles, rats, small mammals, and sometimes even small waterfowl. Rarely does it feed on game fish.

Each of these three snakes gives birth to young, usually from 4 to 12 at a time. The young arrive in mid-summer and are immediately a potential danger for they fend for themselves at once and can deliver their venom whenever they strike.

Snakes do not require a coiled position to strike. Any position is adequate. They are not easily provoked into striking and would prefer to slither away, if given the chance.

A snake's tongue it not a stinger, but rather is a forked organ, highly sensitive to the atmosphere, and it telescopes into the sheath within the lower jaw. Tasting the atmosphere is the snake's method of telling danger and a forked tongue is thus an aid to self defense.

In snake bite, the venom of the pit-vipers breaks down the red corpuscles and is very virulent. The venom is a yellowish or brown viscous fluid. Each of the two tubular fangs is capable of discharging venom, leaving a tell-tale small, round, red mark. Swelling and pain occurs soon after a bite; discoloration follows.

The best known first aid for snake bite is suction. The best first aid is to wash the area round the bite with antiseptic, then place a tourniquet two to four inches above the bite. Tighten just enough that the fingers may be pushed under it. Every 10 to 15 minutes loosen the tourniquet for one minute. A suction cup should be close at hand, where it can be reached in a hurry. Then, with a sterile, sharp knife, razor, or blade, make a letter H-cut about one-quarter inch deep and one-quarter inch long, just over the fang marks. As the swelling spreads, make other cuts just above the swelling and about two inches apart. Use the suction cup to draw the venom from the incision. Use the mouth if there is no suction cup available, and spit out the bad blood after each suction.

By all means keep the patient quiet. Do not frighten him. Send for medical aid at once, or transport the patient by automobile to a hospital if one is available. Continue the suction for one and one-half hours, or until the doctor arrives. Do not give a stimulant to the patient, for it tends to stimulate blood circulation, spreading the poison that much faster. Seldom does a patient die from the bite of one of these snakes. But some die from shock or fright. During 1951 not one person died from snake bite in Virginia.

Snakes fall prey to hawks, owls, foxes, waterfowl, raccoons, and hogs.

The best precaution against snakes is a pair of leather boots, heavy pants, and normal caution. Never step over a log—step on it. Look around, then step down. Caution is the best preventative. Don't kill snakes indiscriminately, for they work for us in one way or another. They eat rodents that destroy grain and infest our living quarters. They consume insects which destroy crops, and they indirectly affect man in many ways. With normal caution everyone can enjoy the out-of-doors without excessive fear of snakes.

Boy Scout Group Plants For Wildlife

The Boy Scouts of Whitestone, Troop 235, aided by 15 boys and 4 Girl Scouts from Irvington, planted 2000 bicolor lespedeza plants one Saturday afternoon in March. These plants were set out in three patches along the woodland border of their camp site near Irvington.

This is the first attempt by Boy Scouts in the Northern Neck to make habitat improvements for wildlife.

Thirteen of Twenty-eight Hunting Casualties Fatal

Among the estimated 300,000 Virginia hunters afield during the 1951-52 hunting season, there was a total of 28 hunting accidents, 13 of which were fatal, and 15 of which were non-fatal, according to the latest hunting accident reports compiled by the Commission of Game and Inland Fisheries.

Of the 13 fatalities, 7 were self-inflicted, 4 were killed by others, and 2 drowned. The fatalities were as follows: Davie Vandyke, 9, Buchanan County, killed by an 18 year old boy who was shooting at miscellaneous objects; George Garr, 26, Madison County, self-inflicted; Joseph Raynes, Jr., 18, Northampton County, self-inflicted; Allen Scott, 16, Louisa County, self-inflicted; Robert Mercer, Caroline County, drowned while hunting coon; William Jones, Caroline County, drowned while hunting coon; Walter Lindsey, 32, Washington County, self-inflicted; Horace Turner, 45, Hanover County, killed by rabbit hunter; Sam Burnett, Jr., 30, Grayson County, killed by deer hunting companion; Wilson Wynn, 14, Nansemond County, killed by companion hunting squirrels; Montville Goins, 32, Patrick County, self-inflicted; L. G. Jarrett, 23, Franklin County, self-inflicted; Charles Stanley, 14, Hanover County, self-inflicted.

The 28 hunter-victims top last year's 19 victims by 9. Fatalities are up 4, and non-fatalities are up 5.

Breaking down the hunting accidents according to game species hunted, small game hunters (hunting quail and rabbits) contributed the highest toll to the accident records, claiming 10 of the victims. The squirrel, however, lays claims to the most victims for any single species, claiming eight. Next in line, for the number of casualties were the deer hunters with 6, the fox hunters with 2, and 1 victim among the goose hunters. Two men were drowned when their boat capsized, while hunting raccoon. One nine year old boy was killed by an 18 year old friend who was plinking.

The average age of 25 of the victims was 23, ranging from 9 to 45 years. The average age of those inflicting wounds upon themselves was 21, but ranged from 12 to 32 years. The average age of victims being shot by someone else was 24, ranging from 9 to 45 years.

Pre-season Deer Kill Costs Violators $1000

When Carl Barnett, Lewis Barnett, and Charles Hensley started out to kill a deer last November 10, they no doubt thought that no one would know. They were mistaken. Donald Levi, James Simpson, and Earl Cather, the Commission's wardens who picked them up, will vouch for that.

The three men were charged with pre-season hunting, hunting without a license, hunting after dark, and hunting by illegal methods.

The three violators' cases have just recently come to trial, and they were fined a total of $540 and $108 costs. Besides the fine they had their 1940 Buick, 30-30 rifle, two 22 caliber rifles, and a six-cell spotlight confiscated. The confiscated items were valued at $464.25. The loss of property plus the fines and costs, cost the three men a total of $1112.25.

Commission wardens (left to right) Donald Levi, James Simpson and Earl Cather are shown with rifles, pistol, flashlight, and automobile confiscated from illegal deer hunters.

BIRD OF THE MONTH

The Yellow-Breasted Chat

With the beginning of May migration is at its height. Birds are crossing the State in millions, and some will not stop till they reach the Arctic Circle. Our summer residents are hurrying back to establish their homes. The permanent residents are waking the echoes as they proclaim their territorial rights. Well, what is the bird of the month? Without hesitation, I choose the yellow-breasted chat.

Many will say, "I never heard of that bird." Others, "Why choose a bird so little known?"

My answer is that he is an outstanding bird; one that should be known by all—except possibly poor little city children. And certainly he fits right into his place as bird of the month.

His arrival is interesting. With seven records out of the past eight years, the earliest arrival was April 26, the latest May 5, while three years he appeared first on May 1.

His appearance is striking—outstanding. He is the largest of the wood warblers, larger than a sparrow. On upper parts he is olive green; his breast is a conspicuous yellow; his underparts are white. Is this all? No, he wears "spectacles", conspicuous "spectacles".

His vocal accomplishments are outstanding. He has a strange collection of squeaks and whistles and caws. And he puts them together in the strangest way, slowly one, then another, maybe a third or a fourth. There is not one suggestion of melody. Then he will go over the same sort of thing, possibly with variations.

Yes, there is something outstanding about the chat. The late Dr. Frank M. Chapman said that after an acquaintance of many years the true character of the chat was still to him a mystery.

Watch him yonder, going straight up in the air, his wings flapping, his tail jerking, his legs dangling down below, the while he clucks and whistles and caws. Then going into reverse he heads down again, flapping and calling. Suddenly he darts away into the tangle.

This outstanding bird will repay your study. He is down there singing in the bushes along the brook —there until the latter part of July. Then he goes into retirement. By the middle of September he has left for Central America.

NEW V. S. O. OFFICERS NAMED

At the annual meeting of the Virginia Society of Ornithology, held in Williamsburg, the following new officers were elected:

President, Dr. D. Ralph Hostetter; Vice-President, Jack E. Perkins; Editor, Dr. J. J. Murray; Secretary, Dr. Florence S. Hague; Publisher, Miss E. Gertrude Prior; Treasurer, W. Edwin Miller.

Appointments to the Executive Committee were as follows: William B. McIlwaine, Jr., Robert J. Watson, Charles E. Stevens, Jr., W. F. Rountrey, Frederic R. Scott, Mrs. A. H. Michie, Royster Lyle, Jr., Charles E. Steirly, and Paul G. Favour.

The V. S. O. is Virginia's local ornithological group interested primarily in bird study and bird conservation.

FIRST TIDEWATER FISH STORY

Writing of their adventures at the Rappahannock's mouth the (John) Smith party told the first Tidewater fish story: "We found in divers places that abundance of fish, lying so thicke with their heads above the water, as for want of nets (our barge driving amongst them) we attempted to catch them with a frying pan: But we found it a bad instrument to catch fish with: neither better fish, more plenty, nor more variety for smal fish, had any of us euer scene in any place so swimming in the water, but they are not to be caught with frying pans." Chancing later to ground on the channel bank at low tide, they spied many fishes lurking in the grass, and Smith "sported himselfe by nayling them to the ground with his sword," and set his companions fishing in the same original manner, and "thus we tooke more in owne houre than we could eate in a day."

MIDYETTE APPOINTED NEW LAW ENFORCEMENT CHIEF

Webb "Muley" Midyette, game warden supervisor for the Northwest District since 1933, was appointed chief of the Commission of Game and Inland Fisheries' law enforcement division April 1.

Midyette replaces M. Wheeler Kesterson, who has returned to his home in southwest Virginia, as

New Commission law enforcement chief, Webb "Muley" Midyette.

game warden supervisor for the Southwest District.

Midyette was born January 3, 1893 in Richmond. He was appointed game warden for Stafford County in 1927, where he served until 1933, when he was appointed game warden supervisor for the Northwest District.

Midyette is well known throughout the state for his active and cooperative spirit. He played football and baseball at Randolph Macon College, studied soils and animal husbandry at V. P. I., served as a member of the school board in Stafford County, helped organize the first Boy Scout troop in Virginia, was a president of the Ashland Kiwanis Club, belongs to the Ruritan Club, the War Memorial Association, and the Duncan Memorial Methodist Church.

WILDLIFE UNIT STUDENTS CALL IT INGENUITY

Dr. Henry Mosby, leader of the Cooperative Wildlife Research Unit at V. P. I., Blacksburg, Virginia, submits the following report of how the wildlife students at V. P. I. get things done:

Seems that there was a problem confronting Bent Medley of the Barbours Creek wildlife area. The problem was to move a 14 by 16 foot cabin, which the Forest Service was permitting the Wildlife Unit to use, from the location it then had on Patterson Creek, to a new location on the Barbours Creek area. The problem was soon solved when Bent called upon the Wildlife Unit students to assist him. They just jacked up the house, put it on a truck, and hauled it over to the Barbours Creek area where it was gently put in place.

Wildlife Unit student directs truck, carrying borrowed cabin, across narrow bridge near Barbours Creek.

SCHOOL OF FISHING AND HUNTING

A new wrinkle in the instruction of novice and experienced anglers and gunners is Captain Tom's School of Fishing and Hunting, operated in connection with Baltimore City College, Baltimore, Maryland. Classes started February 4 and ended around the first of May.

Instruction is given in the following subjects: Fishing—salt water, basic; salt water, advanced; fresh water, basic; fresh water, advanced; fly tying. Casting—fly casting (wet and dry), plug casting, tournament casting, boat casting, spinner, surf casting. Hunting — firearms and ammunition, special classes in archery. Diplomas were awarded for accomplishments in each course and prizes were awarded for highest marks attained.

Interest in such an institution should spread to other sections for it makes for interesting and profitable off-season activity.

WOODS FISHING

They do a lot of funny things in West Virginia, but this one takes the cake!

Conservation Officer Harrison Shobe of Grant County was asked to watch for a suspicious-acting youngster seen roaming the woods with rod and reel—but far away from water.

Officer Shobe trailed the colored lad on several occasions but nothing resembling a law violation came up until the fourth trip out. On that particular day, Shobe watched the boy cast out and reel in two prize chickens before the cold hand of the law moved in to apprehend him.

The boy was working with a worn old rod and reel. The weight was a rock, the bait a grain of corn. He would crouch in a nearby thicket, cast out into the farmer's barnyard, snare a fat hen and reel her in!

WOUNDED GOLDEN EAGLE KEPT AT V. P. I.

Information comes to us from V. P. I. about a rare American golden eagle.

Injured golden eagle at V.P.I.

The golden eagle in the accompanying photo was shot by a Giles County man. The bird was not killed, but its right wing was injured. It has been kept in captivity at V. P. I. for the last two months, in the hope that it would recover enough to fly. Several attempts have been made to release the eagle, but his wing was not sufficiently healed to permit him to fly.

The golden eagle is scarce in Virginia, and this one probably came from a nest, which was known to game warden Jamison, on Stony Creek.

MAY AUTHORS

DR. DEAN ROSEBERY is assistant chief of the Commission's fish division.

WINSTON MONTAGUE, well known outdoor writer and sport fisherman, is from Richmond.

J. W. ENGLE, Commission game technician, is located at Staunton. P. J. HANLON is resource management assistant, George Washington National Forest.

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Wildlife Questions and Answers

This new section is being started to help familiarize our readers with some of the more common questions being asked about fish and wildlife.

If you have a puzzler, drop us a line. We'll try to answer it. Questions used will be run in the order they are received. Answers are based on the latest authoritative information available to us. ED.

Ques.: Clifford Wells, Buchanan, Virginia, asks at what rate does a buck's antlers grow, and are they actually dropped each year?

Ans.: Buck antlers grow so fast that the process is almost, if not wholly, without parallel in the animal kingdom. The entire antlers are dropped each year between January and March, at which time new ones begin to grow. The whole antler is formed by late summer and the velvet growth casing is polished clean by mating time in October and November.

Ques.: Why are tree frogs at times called weather prophets?

Ans.: The cheerful songs of tree frogs are heard most often during damp weather and before a storm. Thus they have been given an undeserved reputation as weather prophets, but really it is only because they are stirred to life by unusual moisture in the air.

Ques.: What is a jack-salmon, and is it really a member of the salmon family?

Ans.: The jack-salmon is a member of the perch family and is best known as the pike-perch or wall-eyed pike. It is found in Claytor Lake and Little River.

Ques.: From what country did we get the wild turkey?

Ans.: We didn't! The wild turkey is America's largest game bird, native only to North and Central America.

Ques.: What is the significance of Dingell-Johnson?

Ans.: Dingell-Johnson is an Act (Public Law 681, 81st Congress) which provides federal aid to the states for the restoration and management of sport fisheries. The money for this aid emanates from a 10 per cent tax on fishing equipment sold in the U. S. and is proportioned to the states on the basis of number of licenses sold and the ratio of the states area to the area of the entire country. It is on a matching basis in which the individual state puts up 25 per cent of the money and the federal government puts up 75 per cent on approved fisheries projects.

Ques.: How old must a doe be to bear fawns?

Ans.: This depends upon the quality and quantity of the food available to the doe. Research workers in New York found that 36 per cent of fawns born in May were carrying a fawn in December of the same year where food conditions were ideal. Only 4 per cent of the fawns in poor ranges were found to be pregnant.

Ques.: Where did the phrase "playing possum" originate?

Ans.: It is difficult to say when or where this phrase originated, but opossums are rather slow-moving, stupid animals which seek safety by their retiring nocturnal habits and non-resistance to enemies. It is because of this last trait that the familiar phrase originated.

"I caught the biggest one."

Ques.: Why is it almost impossible to keep a shrew alive in captivity? Several that have been live-trapped were put in a pen and they all died from no apparent cause.

Ans.: They most likely starved to death. The common shrew will starve to death in two or three hours unless food is obtainable. They will eat twice their own weight of food each day. It is odd that they did not eat each other if they were kept in confinement together.

Ques.: Do wild animals eat noxious plants such as poison ivy, and if they do, are they adversely affected by them, such as the rash that people get from poisonous plants?

Ans.: Apparently not. Poison ivy may be a nuisance to us, but it is popular with wildlife. Poison ivy and poison oak fruits are consumed by many kinds of birds—primarily in winter. In fact some birds, such as woodpeckers, are partial to these poisonous berries.

Ques.: Is it true that the young of the black bear is actually smaller than the young of the porcupine at birth?

Ans.: Yes, it is true. This is indeed one of the oddities of nature, for the back bear, which attains a length of 6 feet and a weight of 300 pounds, weighs only 8 to 12 ounces at birth. The porcupine, which attains a length of only 36 inches, weighs a pound or more at birth.

Ques.: When was the English sparrow first introduced into the United States?

Ans.: The first importation into America was in 1850. It was not successful, but another try made in 1852, by Nicholas Pike, took hold. Other importations were made later.

Ques.: When do fawns lose their spots?

Ans.: When about five months old.

Ques.: What happened to the Labrador duck? Were they persecuted more than other ducks?

Ans.: This duck is extinct. Though once abundant, there are now only 44 specimens in the museums of the world. It was sought out for its eggs, feathers and flesh, and was one of those species that simply could not stand up under the heavy gun pressure and abuse of its habitat. The last Labrador duck, a strikingly marked black and white species, was shot off the New Jersey coast in 1875.

Ques.: Why do we sometimes see spotted fawns during the hunting season?

Ans.: These fawns were not born until September. When does are not bred during the regular season, they may be bred later and bear fawns in September or December. These late fawns have little chance of surviving in the north country with their hard winters, but most likely get through in the south.

Ques.: What publications does the Commission of Game and Inland Fisheries have for distribution on birds?

Ans.: Birdlife of Virginia (25 cents), Sportsman's Guide to Wild Ducks (25 cents), Game Birds, Mammals, and Fish (free), and several free mimeographed and reprinted publications on birds and bird-houses. (In sending money, make all checks payable to the Treasurer of Virginia, or send coin.)

Ques.: When did the great Auk become extinct?

Ans.: The last one was found dead in Newfoundland in 1853.

Ques.: Does a drumming grouse beat its wings together to make the sound?

Ans.: No! Oddly enough it probably still would be an unsolved mystery if it hadn't been for the movie camera. The wings vibrate so fast that what our eyes see isn't enough: but motion pictures have settled it. A drumming grouse just flails the air close beside its body.

BACK COVER: The young and the old on a Virginia trout stream. Photo by Kesteloo

CONDENSED VIRGINIA FISH LAWS

(SEASON 1952-53)

WALL-EYED PIKE OR PIKE PERCH

Open season: West of Blue Ridge Mountains, June 20, 1952 to December 31, 1952. (Exception)—New River—June 20, 1952 to March 31, 1953.) East of the Blue Ridge Mountains, June 1, 1952-March 15, 1953.

Creel limit: 20 a day.
Size limit: None. All to be kept as part of creel.
Note: (Pike, Jack-fish or Pickerel, no size limit and no closed season, creel limit 20 a day.)

BROOK TROUT—RAINBOW TROUT

Open season: From 12:00 o'clock noon, May 1, 1952, to one hour after sunset September 15, 1952, and from one hour before sunrise to one hour after sunset on intervening days.

Creel limit: 8 a day.
Size limit: None. All to be kept as part of creel limit.

LARGEMOUTH BASS—SMALLMOUTH BASS ROCK BASS

Open season: Large and Smallmouth, Spotted and Rock Bass; West of Blue Ridge Mountains, June 20, 1952, to December 31, 1952; East of the Blue Ridge Mountains, June 1, 1952, to March 15, 1953.
Creel limit: Large and Smallmouth Black Bass, and Spotted Bass, 8 a day, 150 a season; Rock Bass or Redeye, 15 a day, 150 a season.
Size limit: Black Bass—10 ins. Rock Bass or Redeye—None.

CRAPPIE OR SILVER PERCH BREAM—OTHER SUNFISH

Open season: Continuous open season.
Size limit: None.
Creel limit: Bream and other sunfish, 25 a day in the aggregate of all species, including crappie.

LICENSES

County resident to hunt and fish	$1.00
State resident to fish	3.00
*City-resident to fish in waters within limits of city of residence	1.00
National Forest Stamp, to hunt, trap and fish	$ 1.00†
Nonresident, to fish	10.00

License to fish not required of resident persons under sixteen years old. License not required of landowners, their husbands or wives and their children, resident or nonresident, to fish within the boundaries of their own lands and inland waters, nor of their bona fide tenants, renters or lessees, when they reside on such lands and have written permission of the landlord upon their person.

Any person commissioned or enlisted in the United States Army, Navy or Marines, while stationed or located in the county wherein the license is applied for, and any student regularly enrolled in any bona fide preparatory school, college or university in this State who presents a certificate of enrollment for the current year to the clerk of the county wherein such school, college or university is located, may purchase a county or state resident license.

†In addition to a license, a National Forest Stamp is required to hunt, fish or trap in the George Washington and Jefferson National Forests: Cost $1.00.

*Effective July 1, 1952.

SPECIAL REGULATIONS

Lawful Fishing—Fishing in the inland waters of this State shall be by angling with natural bait or artificial lures and a hook and line, attached to a rod or pole, either with or without reel or by tight-line, during the open seasons, including first and last days thereof, within the daily creel, season and size limits prescribed.

Unlawful Sale—It is unlawful to sell fresh water black bass, fresh-water trout and all other game fish taken in the fresh waters of the State.

Sunday Fishing—Sunday fishing is prohibited in counties of Alleghany, Bath, Bland, Botetourt (except in James River and Carvin's Cove), Craig, Giles (except in Mountain Lake and New River), Highland, Rockbridge, Surry (except in Sunken Meadow Lake), and in Silver Lake in Rockingham County.

EXCEPTIONS TO STATEWIDE LAWS

Shenandoah National Park

Trout fishing only allowed within Park.

Following regulations govern only those portions of streams lying wholly within the Park: Sunrise to sunset from May 1, 1952, to July 10, 1952; minimum size 7 inches; creel limit 8 daily; only artificial bait allowed; state license required. No spinners or lures with more than one hook permitted.

Blue Ridge Parkway

Conforms to State regulations except hours shall be from sunrise to sunset, and artificial bait only may be used.

Claytor Lake

Located in Pulaski County; boats available; year around fishing except unlawful to take bass during April and May.

COMMISSION CONTROLLED PONDS

Airfield Pond, Sussex County.*
Baxter's Pond, Prince George County.
Chandler's Pond, Westmoreland County.*
Game Refuge Pond, Sussex County.
Lake Gordon, Mecklenburg County.*
Phoebe Pond, Appomattox County.
Silver Lake, Rockingham County:* Daylight hours only. No Sunday fishing and closed from January 1 to May 1. Fishing hours—one-half hour before sunrise to one hour after sunset.
*Wilborne Pond, Southampton County: Will be open June 1, 1952.

Creel and size limits: same as State laws and regulations.

Note: Boats with motor (except electric motor) prohibited on above ponds.

*—Indicates that boats are available.

Sherando Lake

Conforms to general State Laws. Fishing permitted outside the swimming area.

Big Levels Area

Conforms to general State Laws, except Coles Run is closed to fishing.

Back Bay

Back Bay and tributaries, not including Lake Tecumseh and Red Wing Lake, continuous open season.

South Holston Impoundment

Continuous open season on all species. Creel limit conforms to State laws.

STATE PARK AND FOREST LAKES

Bear Creek Lake, Cumberland County.
Douthat Lake, Bath County
Fairy Stone Lake, Patrick County.
Goodwin Lake, Prince Edward County.
Holiday Lake, Buckingham County.
Hungry Mother Lake, Smyth County.
Prince Edward Lake, Prince Edward County.
Winston Lake, Cumberland County.

Seasons, creel limits and size limits are the same as general State law for fishing. (Subject to closure by Conservation Commission through trespass action.)